LaRC DAAC - CERES SCF Interface Confidence Test - L - ICT1 - CERES
To be updated for LaTIS.

Overview

The ECS - SCF ICD identifies distinct data flows supported by ECS Release B. The Science Center Facilities (SCF) interfaces supports the Science Data Production software development by Scientists at SCF's and the Data processing and Data reprocessing operations at the DAAC's using SCF-developed Science data production software.
This ICD Specifies "DAAC" for data flows between an SCF and DAAC operations Staff and "ECS" for all other data flows.
The SCF interfaces include:

- The transfer of Science data production software for both Standard and Special products
- Coefficients and SCF-generated ancillary Data
- Science Data product quality assure information
- Information about Science data processing and reprocessing

Other Interfaces support:

- Remote integration and test of SCF-developed Science data production software
- Software maintenance changes

This Test Document describes those External ECS-SCF interfaces that are between ECS or DAAC operations on one side and SCF Staff or Software that is provided by the SCF on the other side. Throughout this document the term "External interfaces" will refer the SCF Staff or Software that is provided by the SCF on the other side.

Interfaces not covered by this test document are all interfaces that are unique to the ECS-SCF interaction. Many of these flows are implemented between ECS software at the DAAC's and ECS supplied software resident at the SCF. From a design perspective these interfaces are internal to ECS because they are between two ECS software items (e.g. client server interaction where the client is provided by ECS). The instrument planning, scheduling, commanding, and telemetry monitoring interfaces between ECS and the SCFs are covered in the ECS (FOS) internal requirements and design documents.

Almost all of these data flows reduce to file transfers between DAAC and SCF hosts with the applications layer processing being done manually. The email message **do not** include file attachments. Email messages from the SCF's to ECS and a DAAC are interactive while the email messages from ECS to the SCF's are machine generated. The manually-typed email messages from either an SCF or a DAAC are allowed to be in free form although necessary information must be included. The lists below are the types of implementation used to support the external SCF interfaces and the software that the SCFs are required to host for each interface implementation type. This top level view of the interface types are elaborated in subsequent test sections:

- E-mail
- File transfer protocol (ftp)
- Media Ingest
- World Wide Web access (WWW)
- Secure World Wide Web

- X11 access to DAAC
- ECS Bulletin Board

The LaRC DAAC External Interfaces will test:
- ECS DAAC to CERES SCF
- CERES SCF to ECS DAAC

The following ECS DAAC to SCF interfaces will be tested:

AM-1 Mission

LaRC DAAC - CERES SCF

The test cases in the table below are the complete list of test cases that are documented in the Interface Control Document Between EOSDIS Core System (ECS) and Science Computing Facilities (SCF), 505-41-33, Dated February 26, 1998. However some of these cases (or part of it) are post launch scenarios and are not likely to be available for testing before launch. The reason for this being the unavailability of the interface or the client software JEST. Such cases (or part) are shaded to distinguish from the ones which are to be tested before launch. The post launch cases are documented in Appendix A. Internal and External Interfaces Between ECS and SCFs of the Interface Control Document.

Function	Test Case	ICD Paragraph Verified	ICD External Interface	From-To	Implementation
ECS Software Package Interfaces	CERES - ICT 01.1	Paragraph 5.1	ECS software Package Announcement.	ECS - SCF	e-mail. SMTP --Format as specified in Table 5.1.1-1
			ECS software Package Announcement	ECS - SCF	Bulletin board NNTP – Msg. format as specified in Table 5.1.2-1
			ECS software package	ECS - SCF	FTP Pull Specifics as in Table 5.1.3-1
Science Software I&T requirements	CERES - ICT01.2	Paragraph 5.2	Integration and Test requirements	ECS - SCF	WWW. Specifics as in Table 5.2.1-1
Interactive Session dialogue	CERES - ICT01.3	Paragraph 5.3	Informal dialogue	Either ECS - SCF or SCF - ECS.	e-mail or voice Specifics as in Table 5.3.1-1
		Paragraph 5.3.2	Science S/W integration and test status and log files, if specified in interactive session dialogue	ECS - SCF	FTP. Files as specified in Table 5.3.2-1

Function	Test Case	ICD Paragraph Verified	ICD External Interface	From-To	Implementation
Data Algorithm Packages	CERES - ICT01.4	Paragraph 5.4	Request for ECS to ingest data production software delivery package via network	SCF - ECS	FTP and ECS Ingest GUI. Specifics as in Table 5.4.1-1
			Data production software delivery package via media	SCF - DAAC	Media Ingest. Format and specifics as in Table 5.4.1-1
Remote Access Session Dialog	CERES - ICT01.5	Paragraph 5.5	Remote integration and test of science data production software.	SCF - DAAC	Modem, X server. Interface as specified in Table 5.5.1-1
		Paragraph 5.5.2	Remote access session dialog via X11/Internet	SCF-DAAC	Internet connectivity via an SCF firewall. See Table 5.5.2-1
Science Software Algorithm Package	CERES - ICT01.6	Paragraph 5.6	Request for Operational Science Data Production Software Package	SCF - ECS	WWW Browse to instrument URL.
		Paragraph 5.6.1	Request for Operational Science Data Production Software Package **Optional Method**	SCF - ECS	DCE Client
		Paragraph 5.6.2	Distribution Notice for Operational Science Data Production Software Package	ECS - SCF	e-mail. SMTP Contents as defined in Table 5.6.2
		Paragraph 5.6.3	Operational Science Data Production Software Package via network.	ECS - SCF	FTP. As defined in Table 5.6.3-1
Results of software tests and receive reviews from SCF	CERES - ICT01.7	Paragraph 5.7.1	Test product availability message during s/w integration and test.	DAAC - SCF	email. As defined in Table 5.7.1-1.
		Paragraph 5.7.2	Request for test products after SSI&T	SCF - ECS	WWW Browse. As defined in Table 5.7.2-1
		Paragraph 5.7.3	Distribution Notice for test products after SSI&T	ECS - SCF	e-mail. As defined in Table 5.7.3-1
		Paragraph 5.7.4	Test products	ECS - SCF	FTP. As defined in Table 5.7.4-1
		Paragraph 5.7.5	Test product reviews	SCF - DAAC	email. As defined in Table 5.7.5-1

Function	Test Case	ICD Paragraph Verified	ICD External Interface	From-To	Implementation
QA External interfaces.	CERES - ICT01.8	Paragraph 5.8.1	QA Data Subscription Request	SCF - DAAC	email. As defined in Table 5.8.1-1, 5.8.1-2
		Paragraph 5.8.2	QA Data Subscription Request Acknowledgment	DAAC - SCF	email. As defined in Table 5.8.2-1, 5.8.2-2
		Paragraph 5.8.3	QA Data Subscription Event Notification	ECS - SCF	email. As defined in Table 5.8.3-1
		Paragraph 5.8.4	Distribution Notice for data to QA.	ECS - SCF	email. As defined in Table 5.8.4-1.
		Paragraph 5.8.5	Data to QA	ECS - SCF	email. As defined in Table 5.8.5-1
		Paragraph 5.8.6	QA Metadata Updates	SCF - ECS	WWW. As defined in Table 5.8.6-1
Processing Status External Interfaces	CERES - ICT01.9	Paragraph 5.9.1	Distribution notice for processing status.	ECS - SCF	email. As defined in Table 5.9.1-1
		Paragraph 5.9.2	Processing Status via ftp.	ECS - SCF	FTP. As defined in Table 5.9.2-1 and 5.9.2-2
		Paragraph 5.9.3	Request for processing status via WWW.	SCF - ECS	WWW. As defined in Table 5.9.3-1
		Paragraph 5.9.4	Processing Status	ECS - SCF	WWW. As defined in Table 5.9.4-1.
Resource Usage External Interfaces	CERES - ICT01.10	Paragraph 5.10.1	Distribution Notice for resource usage	ECS - SCF	email. As defined in Table 5.10.1-1
		Paragraph 5.10.2	Resource Usage	ECS - SCF	FTP. As defined in Table 5.10.2-1 and 5.10.2-2
		Paragraph 5.10.3	Request for resource usage	SCF - ECS	WWW. As defined in Table 5.10.3-1
		Paragraph 5.10.4	Resource usage	ECS - SCF	WWW, As defined in Table 5.10.4-1
Product History External Interfaces	CERES - ICT01.11	Paragraph 5.11.1	Distribution notice for product history	ECS - SCF	email. As defined in Table 5.11.1-1
		Paragraph 5.11.2	Product history	ECS - SCF	FTP. As defined in Table 5.11.2-1
Failed PGE Diagnostics External Interface	CERES - ICT01.12	Paragraph 5.12.1	Failed PGE Diagnostics Subscription Request	SCF - DAAC	email. As defined in Table 5.12.1-1 and 5.12.1-2
		Paragraph 5.12.2	Failed PGE Subscription Request Acknowledgment	DAAC - SCF	email. As defined in Table 5.12.2-1 and 5.12.2-2

Function	Test Case	ICD Paragraph Verified	ICD External Interface	From-To	Implementation
		Paragraph 5.12.3	Failed PGE diagnostics subscription event notification	ECS - SCF	email. As defined in Table 5.12.3-1
		Paragraph 5.12.4	Distribution Notice for Failed PGE diagnostics	ECS - SCF	email. As defined in Table 5.12.4-1.
		Paragraph 5.12.5	Failed PGE Diagnostics	ECS - SCF	FTP. As defined in Table 5.12.5-1.
Reprocessing Request External Interfaces.	CERES - ICT01.13	Paragraph 5.13.1	Reprocessing request	SCF - DAAC	email. As defined in Table 5.13.1-1
		Paragraph 5.13.2	Reprocessing request acknowledgment	DAAC - SCF	email. As defined in Table 5.13.2-1
		Paragraph 5.13.3	Reprocessing request	SCF - DAAC	X11/Internet. As defined in Table 5.13.3.1-1
			Reprocessing request	SCF - DAAC	X11/Modem. As defined in Table 5.12.3.2-1
Enable SCFs to obtain and update coefficients and SCF generated ancillary data	CERES - ICT01.14	Paragraph 5.14.1	Distribution Notice for coefficients and SCF generated ancillary data	ECS - SCF	email. As defined in Table 5.14.1-1
		Paragraph 5.14.2	Coefficients and SCF generated Ancillary data.	ECS - SCF	FTP. As defined in Table 5.14.2-1
		Paragraph 5.14.3	Coefficients and SCF generated ancillary data update network ingest.	SCF - ECS	FTP. As defined in Table 5.14.3-1
		Paragraph 5.14.4	Coefficients and ancillary data update request media ingest	SCF - DAAC	Ingest GUI. As defined in Table 5.14.4-1
Special Products External Interfaces (No special products have been defined)	CERES - ICT01.15	Paragraph 5.15.1	Special products and ancillary data as defined in Appendix A of the ICD. Special products collection metadata	SCF-ECS	WWW. As defined in Table 5.15.1-1
		Paragraph 5.15.2	Special products package ingest.	SCF - ECS	FTP. As defined in Table 5.15.2-1
		Paragraph 5.15.3	Special products package ingest	SCF - ECS	Media ingest. As defined in Table 5.15.3-1
ESDT Implementation	CERES - ICT01.16	Paragraph 5.16.1	ESDT Implementation / Changes via FTP	SCF _ ECS	FTP.

EXHIBIT 1: SCF Interface Data Flows and Test Case Mapping

Reference Documents:

The following are the controlling documents for this test:

- Interface Control Document Between EOSDIS Core System (ECS) and Science Computing Facilities (SCF), 505-41-33, Revision B, Dated April 1998.
- Interface Requirements Document between EOSDIS CORE System(ECS) and Science Computing Facilities

Please Note: This test package is under constant revision. Detailed procedures will be incorporated as information becomes available.

Test Plan Objectives:

This test plan verifies:

- The ability of the SCF and DAAC elements to transfer and respond to all message data types.
- Implementation of data transfers.
- The ability of the SCF and DAAC to interact via the various interface methods.
- Error and exception handling for FTP transfers and other situations resulting from error environment.

Test Configuration:

Hardware and software configurations at each ECS site are managed and tracked by the M&O organization at that site. The most current configuration status report will be obtained prior to the start of testing and referenced in the test report.

Exhibit 2 shows the external SCF interfaces that support development of data production software and support DAAC use of the SCF-developed software for processing and reprocessing of science data.

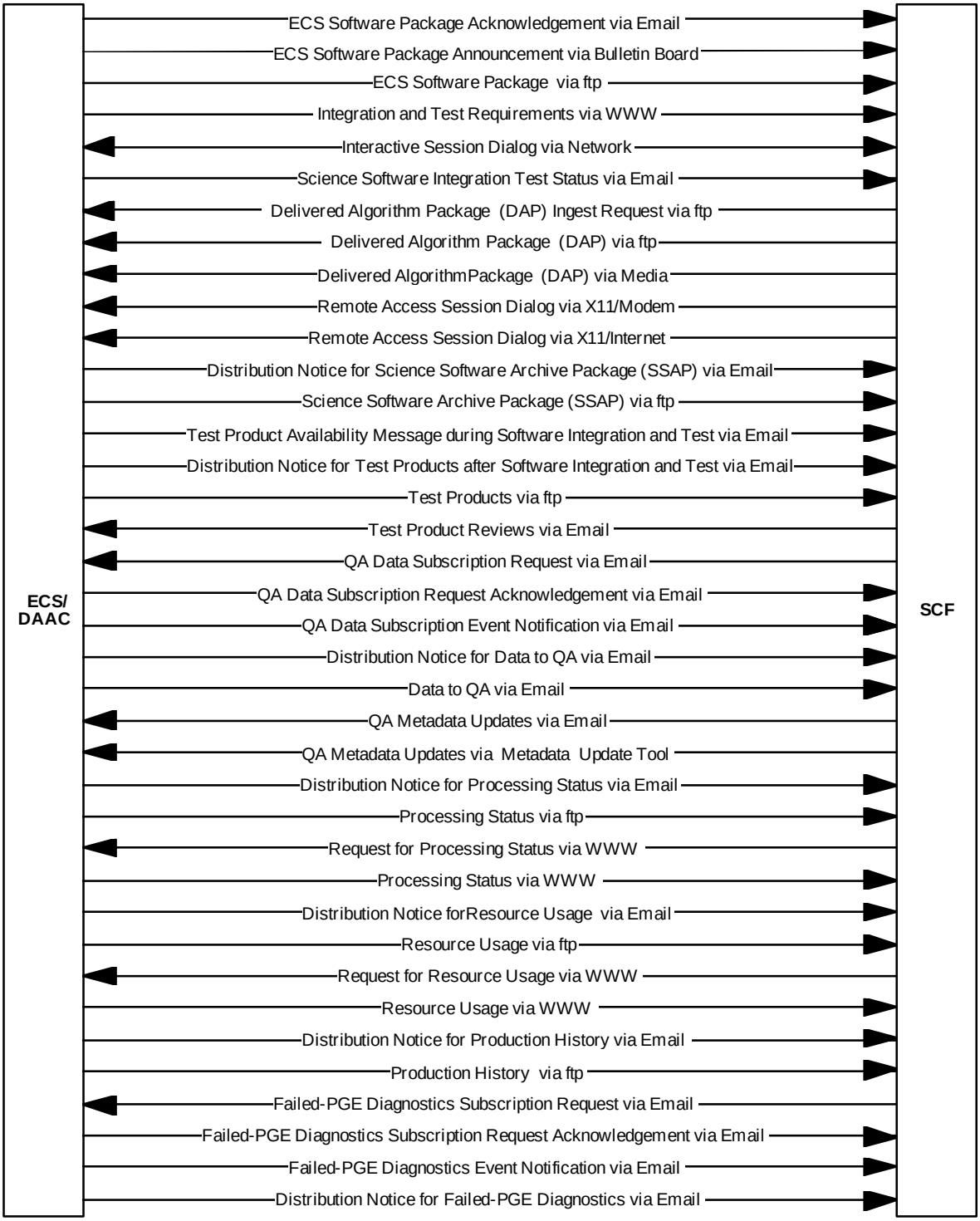


EXHIBIT 2: External SCF interfaces (1 of 2)

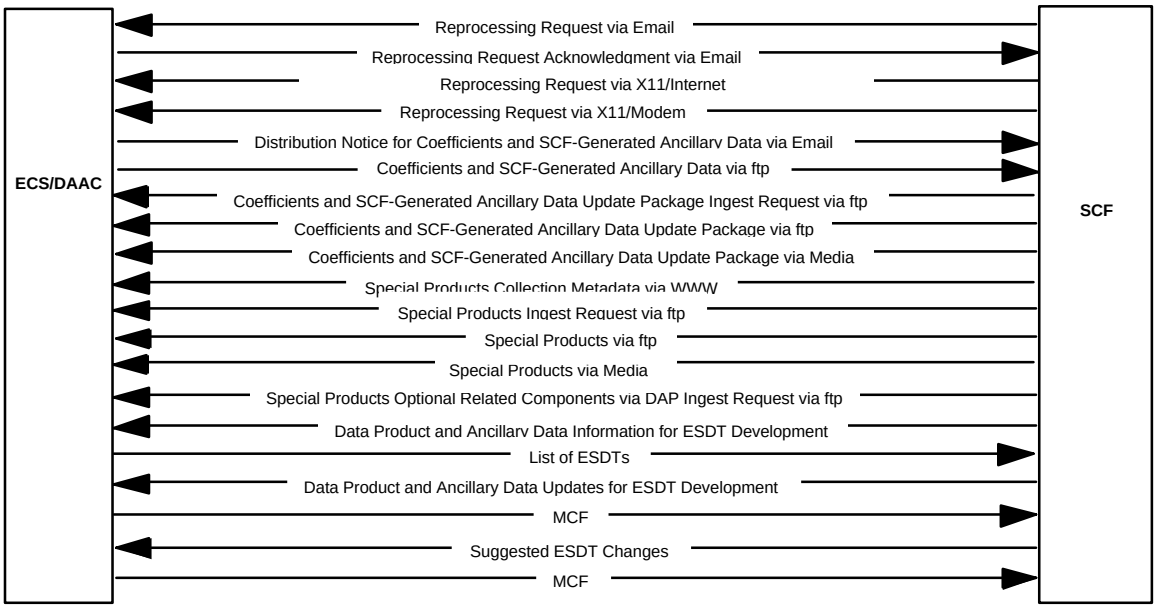


EXHIBIT 2: External SCF interfaces (2 of 2)

Test Cases Summary:

The specific test cases addressing the interfaces described above are the following:

ICT01.1 CERES SCF/LaRC DAAC Software Package External Interfaces - This test verifies that the CERES SCF can receive Software Package Announcements and the software package from the LaRC DAAC.

ICT01.2 CERES SCF/LaRC DAAC ECS Integration and Test Requirements Special Products and External Interfaces - This test verifies that the LaRC DAAC can deliver the integration and test requirements to the CERES SCF via the WWW.

ICT01.3 CERES SCF/LaRC DAAC ECS Interactive Session Dialog External Interfaces - This test verifies that the LaRC DAAC can send science software integration test status to the CERES SCF.

ICT01.4 CERES SCF/LaRC DAAC ECS Data Algorithm Package External Interfaces - This test verifies that the CERES SCF can send a DAP to the LARC DAAC.

ICT01.5 CERES SCF/LaRC DAAC ECS Remote Access - This test verifies that the LaRC DAAC can access the CERES SCF via a modem or through the Internet.

ICT01.6 CERES SCF/LaRC DAAC ECS Science Software Algorithm Package External Interfaces - This test verifies that the LaRC DAAC can send an SSAP to the CERES SCF.

ICT01.7 CERES SCF/LaRC DAAC ECS External Interfaces Testing Results - This test verifies that LaRC DAAC can send test products to the CERES SCF.

ICT01.8 CERES SCF/LaRC DAAC ECS QA External Interfaces - This test verifies that the LaRC DAAC can send QA data to the CERES SCF.

ICT01.9 CERES SCF/LaRC DAAC ECS Processing Status External Interfaces - This test verifies that the LaRC DAAC can send processing status to the CERES SCF.

ICT01.10 CERES SCF/LaRC DAAC ECS Resource Usage External Interfaces - This test verifies that the LaRC DAAC can send resource usage information to the CERES SCF.

ICT01.11 CERES SCF/LaRC DAAC ECS Production History External Interfaces - This test verifies that the LaRC DAAC can send product history information to the CERES SCF.

ICT01.12 CERES SCF/LaRC DAAC ECS Failed PGE Diagnostics External Interfaces - This test verifies that the LaRC DAAC can send failed Program Generation Executive (PGE) diagnostics to the CERES SCF.

ICT01.13 CERES SCF/LaRC DAAC ECS Reprocessing Request External Interfaces – This test verifies that the CERES SCF can send reprocessing requests to the LaRC DAAC.

ICT01.14 CERES SCF/LaRC DAAC ECS Coefficients and SCF-Generated Ancillary Data External Interfaces - This test verifies that the LaRC DAAC can receive coefficients and CERES SCF generated ancillary data.

ICT01.15 CERES SCF/LaRC DAAC ECS Special Products and External Interfaces - This test verifies that the CERES SCF can produce special products and that those special products can be archived by the LaRC DAAC.

ICT01.16 CERES SCF /LaRC DAAC ECS ESDT Implementation - This test verifies that the ECS and the SCF is capable of executing the process for creating and implementing an Earth Science Data Type (ESDT) within ECS.

Participants and Support Requirements:

Participants:

- Maintenance & Operations (M&O) personnel at the LaRC DAAC
- CERES SCF operations personnel
- I&T

Equipment and Software:

- SCF Operator Workstation
- DAAC Operator AIT Workstation
- ECS Management Subsystem Server

Test Data:

Description / Characteristics	Source
e-mail test message	Keyboard
Utility file for FTP transfer	File should adhere to formats specified in individual test cases.
Science Data Production Packages • data production software: source code script files and makefiles • configuration information: version numbers, format listings extent of PGS Toolkit usage, and SCF Contact person • test specifications • test data files: all necessary science engineering, and ancillary files, calibration coefficients • operations concept and design specifications • expected test results • reprocessing plan	Instrument Teams CERES
Operational Science Data Production Software Packages Operational algorithms for transfer back to instrument teams at SCF	Instrument Teams CERES
Special Products Package may include: • L1 - L4 Special Products • associated metadata • ancillary data • calibration data • correlative data • documents • data production software	Instrument Teams CERES
Coefficient and Ancillary Data files Files for updating.	Instrument Teams CERES

Test Case Breakup:

Each test case is broken down into the following sections:

Test Objective: A brief description of what functionality / performance is to be tested.

Requirements Verified: A list of all test requirements that are verified in the test case.

Configuration Requirements: A list of all pre - requisites that must be met in order to test the case.

Diagram: A block diagram representing the data flow in sequential order.

Procedure: A test table showing the different steps of each case along with description and expected results.

Testing Requirements: A list of items that need to be verified / tested to mark a test case as success or failure.

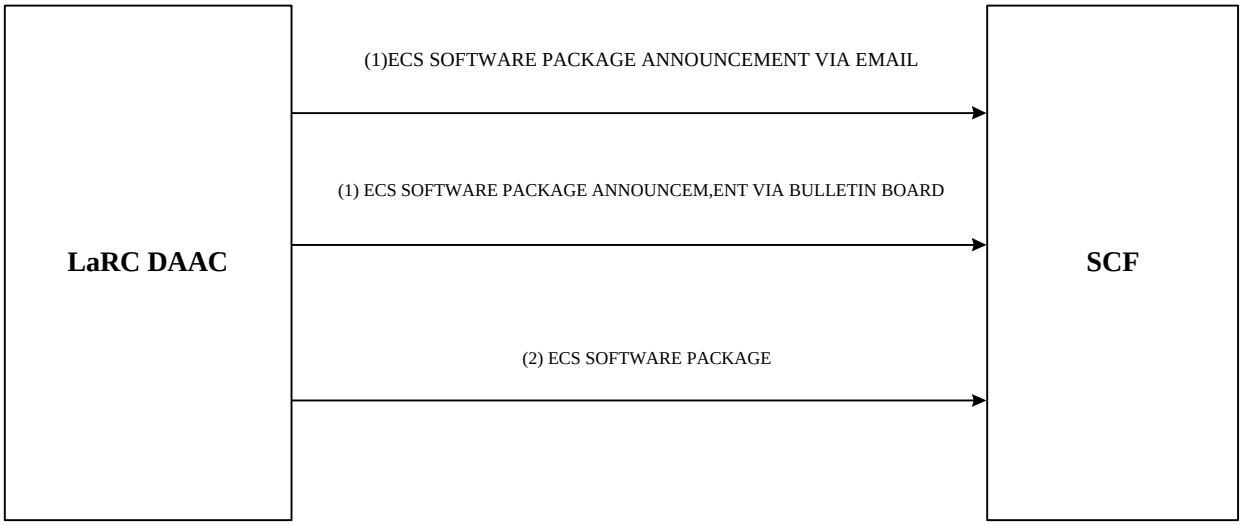
ICT01.1 CERES SCF/LaRC DAAC Software Package External Interfaces

TEST OBJECTIVE: This test verifies that the CERES SCF can receive Software Package Announcements and the software package from the LaRC DAAC.

REQUIREMENTS VERIFIED: SCF-0001, SCF-0010, SCF-0020, SCF-0025, SCF-0030, SCF-0040, SCF-0060, ICD - PARAGRAPH 5.1

CONFIGURATION REQUIREMENTS:

1) Email address of both SCF and ECS Workstations.
2) IP address of ECS Workstation.
3) Designated directory where the files are software package are stored.
4) Type of files.



ECS SOFTWARE PACKAGE INTERFACE

PROCEDURE:

Step	Station	Operator Action	Expected Results	Comments
1.001	SCF, ECS	Login as operator	Entry into respective environment	
1.002	SCF, ECS	Login to local email software with proper username and password	Password is accepted and email toolbars and menu appears	

Step	Station	Operator Action	Expected Results	Comments
1.003	ECS	An email is composed to announce the availability of Software Packages. Email is sent	SCF receives this email message.	Contents: Internet address (presently edhs1.gsfc.nasa.gov or 192.150.28.25), the group, password, detailed directions for obtaining and installing the software, the total file size and the list of available files.
2.001	ECS	Verify the following Security Server information to facilitate data transmission: FTP IP Address Host Name User ID Destination Directory Password	Data Server information Verified	
2.002	SCF	SCF uses a "pull" to get the software package from the designated directory	The files are ftp'd to the right directory at the SCF.	
2.003	SCF	Files are compared against the original set at ECS	The file count and size should match.	

TESTING REQUIREMENTS:

- Anomaly cases should be tested related to the test case scenario**.**
- Confirmation that the contents of the all emails adhere to the format specified.
- Files of all related formats should be tested under ftp.

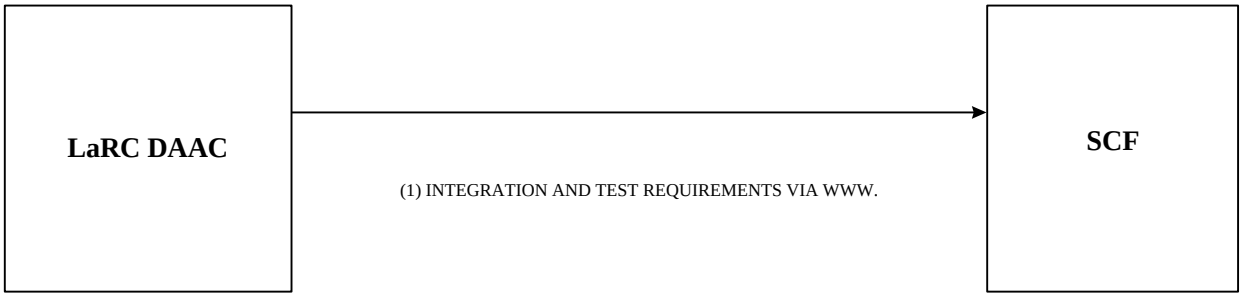
ICT01.2 CERES SCF/LaRC DAAC ECS Integration and Test Requirements Special Products and External Interfaces

TEST OBJECTIVE: This test verifies that the LaRC DAAC can deliver the integration and test requirements to the CERES SCF via the WWW.

REQUIREMENTS VERIFIED: SCF-0001, SCF-0010, SCF-0020, SCF-0025, SCF-0030, SCF-0070, SCF-0080, SCF-0085, SCF-0090, ICD - PARAGRAPH - 5.2

CONFIGURATION REQUIREMENTS:

1) WWW Access
2) URL location where the integration and test requirements exist.



SCIENCE SOFTWARE INTEGRATION AND TEST REQUIREMENTS INTERFACE

PROCEDURE:

STEP	Station	Operator Action	Expected Results	Comments
1.001	SCF	Access the WWW at site: http://edhs1.gsfc.nasa.gov/ waisdata/catalog/itcat.html	The http site is accessible.	
1.002	SCF	Scroll to document number (205-CD-002-006) and access the "Software developers Guide to Preparation, Delivery, Integration and Test with ECS" in formats ASCII, RTF, ps or pdf	Document should be accessible in all the required formats.	

TESTING REQUIREMENTS:

- Anomaly cases should be tested related to the test case scenario**.**
- Files of all related formats should be tested under ftp.

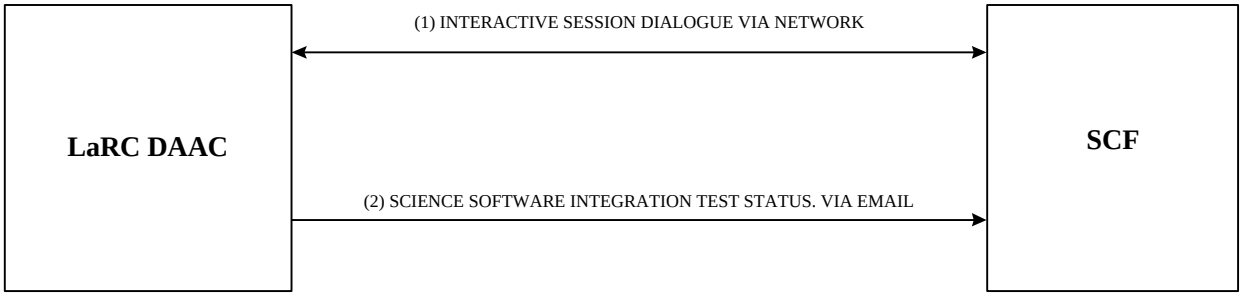
ICT01.3 CERES SCF/LaRC DAAC ECS Interactive Session Dialog External Interfaces (Post Launch Test Scenario)

TEST OBJECTIVE: This test verifies that the LaRC DAAC can send science software integration test status to the CERES SCF.

REQUIREMENTS VERIFIED: SCF-0001, SCF-0010, SCF-0020, SCF-0025, SCF-0030, SCF-0070, SCF-0080, SCF-0085, ICD PARAGRAPH - 5.3, 5.3.2.

CONFIGURATION REQUIREMENTS:

1) Email address of both SCF and ECS Workstations.
2) IP address of ECS Workstation.
3) Designated directory where the files are software package are stored.
4) Type of files.



INTERACTIVE SESSION DIALOG INTERFACE

PROCEDURE:

Step	Station	Operator Action	Expected Results	Comments
1.001	SCF, ECS	Login as operator	Entry into respective environment	
1.002	SCF, ECS	Login to local email software with proper username and password	Password is accepted and email toolbars and menu appears	

Step	Station	Operator Action	Expected Results	Comments
1.003	ECS/SCF	An email is composed regarding the I&T status. Email is sent	SCF/ECS receives this email message.	Technical and Science issues, operations support, integration and test status, test coordination including request for the following: I&T status information, results of tests, test execution scripts.
2.001	ECS	Verifythe following Security Server information to facilitate data transmission: FTP IP Address Host Name User ID Destination Directory Password	Data Server information Verified	
2.002	SCF	SCF uses a "pull" to get the software package from the designated directory	The files are ftp'd to the right directory at the SCF.	**Contents**: Log files from testing of SCF - developed data production software. **Format**: ASCII
2.003	SCF	Files are compared against the original set at ECS	The file count and size should match.	

TESTING REQUIREMENTS:

- Anomaly cases should be tested related to the test case scenario**.**
- Confirmation that the contents of the all emails adhere to the format specified.
- Files of all related formats should be tested under ftp.

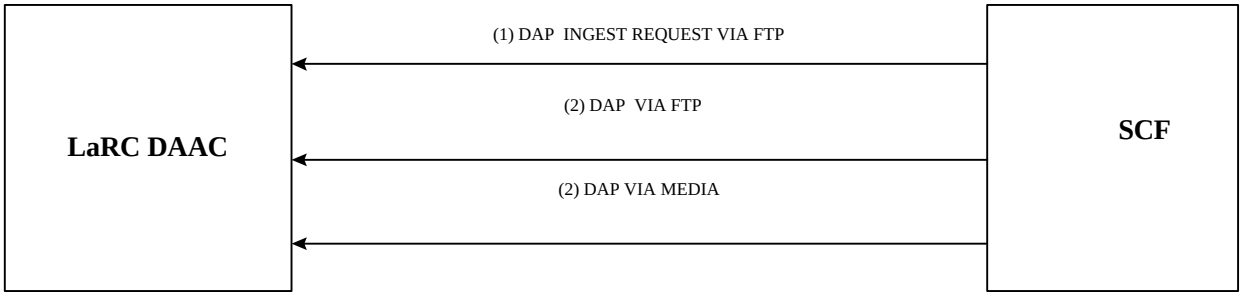
ICT01.4 CERES SCF/LaRC DAAC ECS Delivered Algorithm Package (DAP) External Interfaces

TEST OBJECTIVE: This test verifies that the CERES SCF can send a delivered algorithm package to the LARC DAAC via ftp and media ingest.

REQUIREMENTS VERIFIED: SCF-0001, SCF-0010, SCF-0020, SCF-0025, SCF-0030, SCF-0080, SCF-0090, ICD PARAGRAPH - 5.4.

CONFIGURATION REQUIREMENTS:

1) IP address of ECS Workstation.
2) Designated directory where the files are software package are stored.
3) Type of files.



DELIVERED ALGORITHM PACKAGE INTERFACE

PROCEDURE:

For steps 1.001 to 1.008, please consult the Procedure B090110.090$L

Steps 2.001 to 2.004 are post launch test scenario.

Steps	Station	Operator Actions	Expected Results	Comments
1.001	ECS	Verify the ECS software is up and running		
1.002	SCF	Verify the SCF software is up and running		

Steps	Station	Operator Actions	Expected Results	Comments
1.003	SCF	SCF places the Description of Delivered Algorithm Package Ingest Request at the designated directory. (PDR file)	Files are placed.	**Contents**: As described in section 4.6 **Format**: PVL format
1.004	SCF	SCF places Delivered Algorithm Package at the designated directory.	Files are placed.	The description of DAP. Contents are as specified in **"Software Developers Guide to preparation, delivery, integration and test with ECS (DID 205, part 4)".** **Format** **Code**: ASCII, 32 - bit binary, 64 - bit binary. **Data**: HDF:EOS, HDF, 32-BIT BINARY, 64-BIT BINARY,ASCII. **Documents**: RTF, PS, PDF, HTML. **Other**: All files, except for metadata and delivery record files are tar'd into one or more DAP files (delivered seperately).
1.005	ECS	ECS polls and validates the PDRs	PDRs are validated.	
1.006	ECS	ECS pulls the scheduled data from the directory.	The files are ftp'd	
1.007	ECS	ECS sends a PAN to the SCF.	PAN is received by SCF.	
1.008	SCF	Files are compared against the original set.	The file count and size should match.	
2.001	SCF	Generate a copy of Archive Media D3 tape of requested data	Tape is generated.	The description of DAP. Contents are as specified in **"Software Developers Guide to preparation, delivery, integration and test with ECS (DID 205, part 4)".** **Format** **Code**: ASCII, 32 - bit binary, 64 - bit binary. **Data**: HDF:EOS, HDF, 32-BIT BINARY, 64-BIT BINARY,ASCII. **Documents**: RTF, PS, PDF, HTML. **Other**: All files, except for metadata and delivery record files are tar'd into one or more DAP files (delivered seperately).

Steps	Station	Operator Actions	Expected Results	Comments
2.002	SCF	Send the archived data with the Physical Media Unit Delivery Letter	Delivery Letter is send to LaRC DAAC.	
2.003	ECS	Copy selected data from archived media.	Selected data is copied.	
2.004	ECS	View Archive log file and verify files archived against Physical Media Unit Delivery Letter.	Archive Files are as listed on the Physical Media Unit Delivery Letter.	

TESTING REQUIREMENTS:

- Anomaly cases should be tested related to the test case scenario**.**
- Files of all related formats should be tested under ftp.

ICT01.5 CERES SCF/LaRC DAAC ECS Remote Access

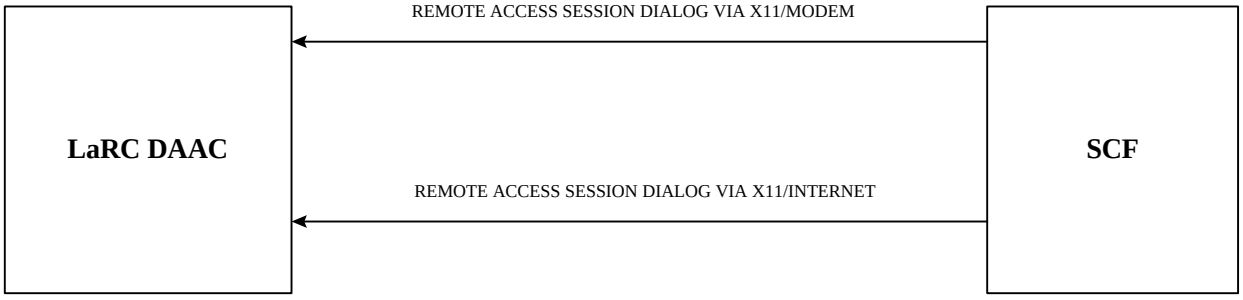
(Post Launch Test Scenario)

TEST OBJECTIVE: This test verifies that the LaRC DAAC can access the CERES SCF via a modem or through the Internet.

REQUIREMENTS VERIFIED: SCF-0001, SCF-0010, SCF-0020, SCF-0025, SCF-0030, SCF-0080, SCF-0085, ICD PARAGRAPH - 5.5, 5.5.2

CONFIGURATION REQUIREMENTS:

1) SCF modem must be configured.
2) X terminal workstations.
3) IP addresses.
4) Dial up Telephone Number.
5) Port Number.
6) Following software must be running: Science Data Processing Toolkit, Planning and data processing user interface, Test and execution analysis tool.
7) Kerberized telnet or Shell Secure software for the Internet option.



REMOTE ACCESS SESSION DIALOG INTERFACE

PROCEDURE:

Steps	Station	Operator Action	Expected Results	Comments
1.001	SCF	Use the modem to dial into the ECS and initiate a session.	The session is successful and the SCF is connected to the ECS via the modem	
1.002	SCF	Access the GUI and confirm data flows in both direction.	The GUI manipulation is successful and data flows in both directions.	

Steps	Station	Operator Action	Expected Results	Comments
2.001	SCF	Use the internet to initiate a session with the ECS	The session is successful and the SCF is connected to the ECS via the internet	
2.002	SCF	Access the GUI and confirm data flows in both direction.	The GUI manipulation is successful and data flows in both directions.	

TESTING REQUIREMENTS:

- Anomaly cases should be tested related to the test case scenario**.**
- All interface methods should be checked for functionality's.

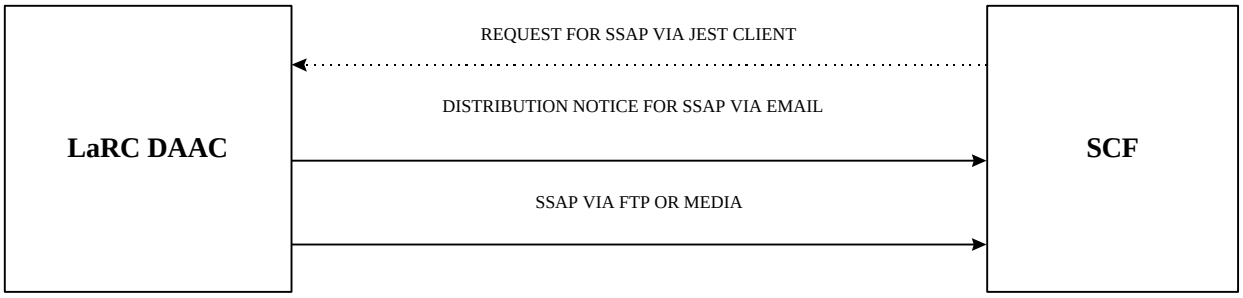
ICT01.6 CERES SCF/LaRC DAAC ECS SSAP External Interfaces

TEST OBJECTIVE: This test verifies that the LaRC DAAC can send an SSAP to the CERES SCF.

REQUIREMENTS VERIFIED: SCF-0001, SCF-0010, SCF-0020, SCF-0025, SCF-0030, SCF-0120, ICD PARAGRAPH - 5.6,5.6.1,5.6.2,5.6.3

CONFIGURATION REQUIREMENTS:

1) Email addresses for SCF and ECS.
2) IP address for ECS.



SCIENCE SOFTWARE ARCHIVE PACKAGE INTERFACE

PROCEDURE:

Step	Station	Operator Action	Expected Results	Comments
1.001	SCF, ECS	Login as operator	Entry into respective environment	
1.002	SCF, ECS	Login to local email software with proper username and password	Password is accepted and email toolbars and menu appears	
1.003	ECS	An email is composed regarding the I&T SSAP. Email is sent to SCF	SCF receives this email message.	**Content**: Defined as in ICD 505 - 41 - 33 Table 4.8-1. **Format**: Defined in ICD 505 - 41 - 33 Table 4.8-1. **Expected Volume** : 10 KB

Step	Station	Operator Action	Expected Results	Comments
2.001	ECS	Verify the following Security Server information to facilitate data transmission: FTP IP Address Host Name User ID Destination Directory Password	Data Server information verified.	
2.002	SCF	SCF uses a "pull" to get the software package from the designated directory	The files are ftp'd to the right directory at the SCF.	**Code**: ASCII, 32 - bit binary, 64 - bit binary **Data**: HDF - EOS, HDF, 32 - bit binary, 64 - bit binary, ASCII **Documents**: rtf, ps, pdf, HTML (in one tar file) **Format**: One tar file per component , containing all the files in that component. A tar file of more than 2GB is broken into 2 or more tar files.
2.003	SCF	Files are compared against the original set at ECS	The file count and size should match.	
3.001	SCF	Generate a copy of Archive Media D3 tape of requested data	Tape is generated.	
3.002	SCF	Send the archived data with the Physical Media Unit Delivery Letter	Delivery Letter is send to LaRC DAAC.	
3.003	ECS	Copy selected data from archived media.	Selected data is copied.	
3.004	ECS	View Archive log file and verify files archived against Physical Media Unit Delivery Letter.	Archive Files are as listed on the Physical Media Unit Delivery Letter.	

TESTING REQUIREMENTS:

- Anomaly cases should be tested related to the test case scenario**.**
- Confirmation that the contents of the all emails adhere to the format specified.
- Files of all related formats should be tested under ftp.

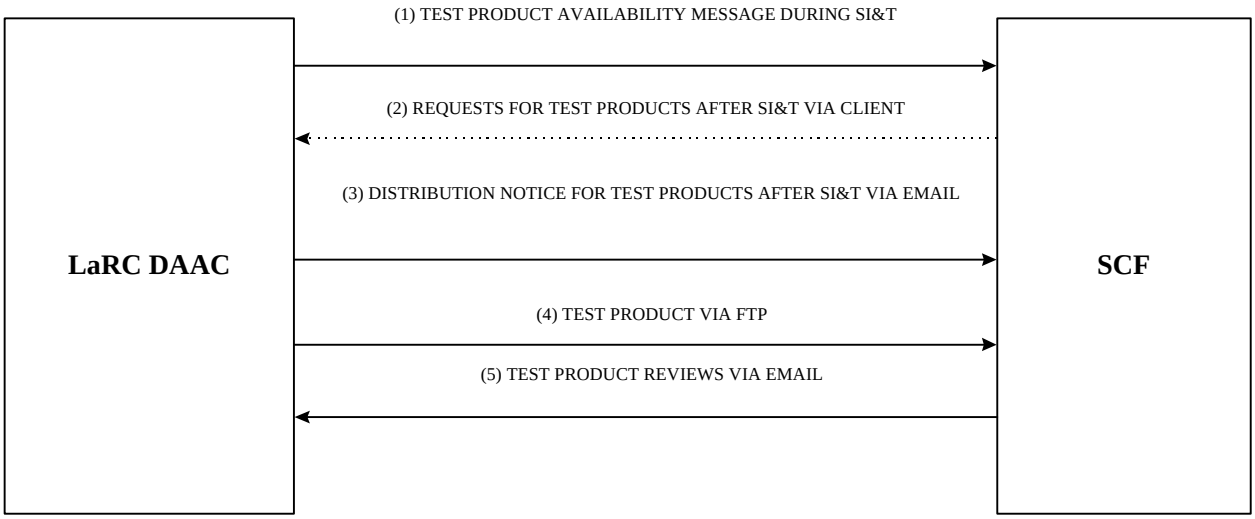
ICT01.7 CERES SCF/LaRC DAAC ECS External Interfaces Testing Results

TEST OBJECTIVE: This test verifies that **LaRC DAAC** can send test products to the CERES SCF.

REQUIREMENTS VERIFIED: SCF-0001, SCF-0010, SCF-0020, SCF-0025, SCF-0030, SCF-0100, SCF-0110. ICD PARAGRAPH - 5.7.1,5.7.2,5.7.3,5.7.4,5.7.5

CONFIGURATION REQUIREMENTS:

1) Email address for SCF and ECS.
2) IP address for ECS.
3) Designated directory.
4) Type of files to be FTP.



RESULT OF TESTING EXTERNAL INTERFACES

PROCEDURE:

Step	Station	Operator Action	Expected Results	Comments
1.001	SCF, ECS	Login as operator	Entry into respective environment	
1.002	SCF, ECS	Login to local email software with proper username and password	Password is accepted and email toolbars and menu appears	

Step	Station	Operator Action	Expected Results	Comments
1.003	ECS	An email is composed regarding the software I&T availability (before archival). Email is sent	SCF receives this email message.	The email will have the following operations: Number of staged files, total bytes, expiration time, ECS data types, staging machine name, directory IDs, file names and file sizes. **Format**: Free form **Expected Volume**: 10 KB.
2.001	ECS	An email is composed with instructions on how to access the test results after SCF has accessed the JEST client. This email is automated.	ECS should automatically generate the email and SCF should receive this email.	**Content**: As defined in ICD 505 - 41 -33 (Table 4.8.1) **Format**: As defined in ICD 505 - 41 - 33 (Table 4.8.1) **Expected Volume** < 10 KB
3.001	ECS	Verify the following Security Server information to facilitate data transmission: FTP IP Address Host Name User ID Destination Directory Password	Data Server information Verified.	
3.002	SCF	SCF uses a “pull” to get the software package from the designated directory	The files are ftp’d to the right directory at the SCF.	**Format** : ASCII **Volume**: 2TB (maximum)
3.003	SCF	Files are compared against the original set at ECS	The file count and size should match.	
4.001	SCF	SCF sends an email with review of the test results.	ECS receives this email.	**Contents**: SCF’s QA review of the test results. **Format**: Free form message. **Expected Volume** < 10 KB.

TESTING REQUIREMENTS:

- Anomaly cases should be tested related to the test case scenario**.**
- Confirmation that the contents of the all emails adhere to the format specified.
- Files of all related formats should be tested under ftp.

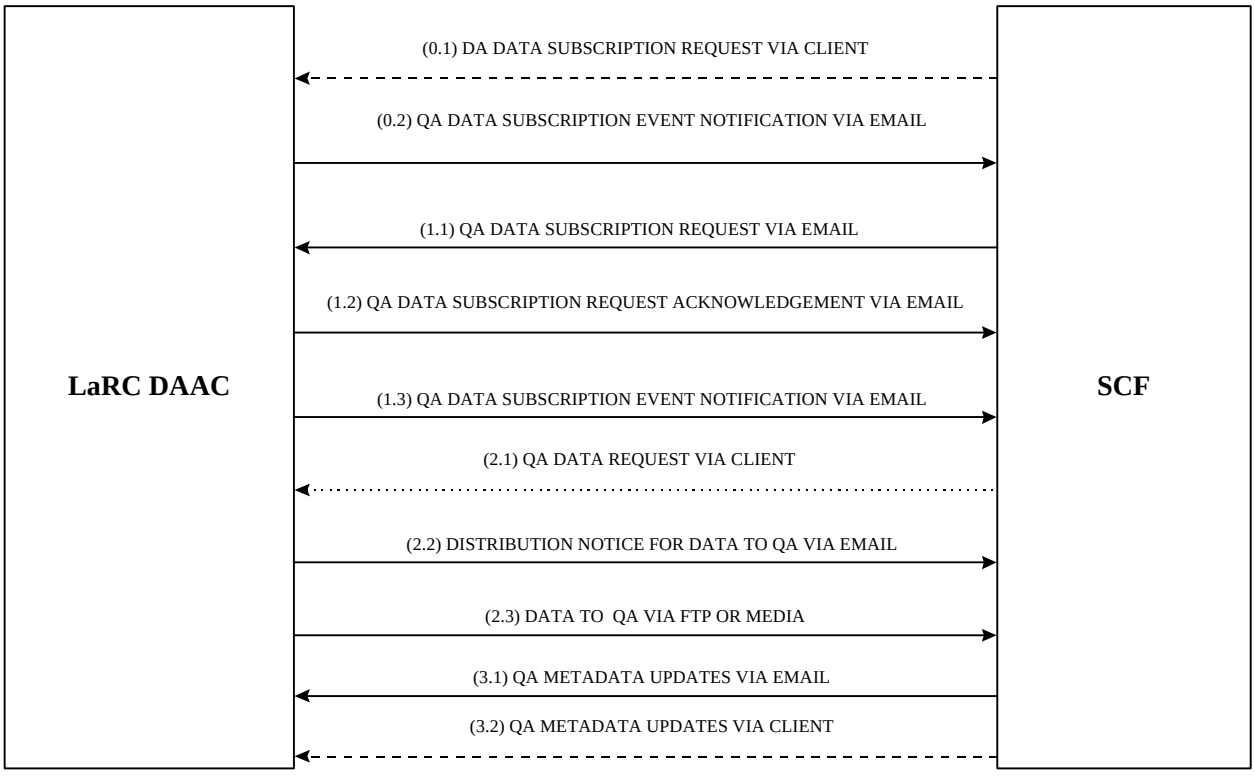
ICT01.8 CERES SCF/LaRC DAAC ECS QA External Interfaces

TEST OBJECTIVE: This test verifies that the LaRC DAAC can send QA data to the CERES SCF.

REQUIREMENTS VERIFIED: SCF-0001, SCF-0010, SCF-0020, SCF-0025, SCF-0030, SCF-0200, SCF-0210, SCF-0220, SCF-0230, SCF-0240, SCF-0250, ICD PARAGRAPH - 5.8.1,5.8.2,5.8.3,5.8.4,5.8.5 , 5.8.6

CONFIGURATION REQUIREMENTS:

1) Email address for SCF and ECS.
2) WWW access.
3) URL for the page.
4) IP address for ECS.
5) Designated directory.
6) Type of files to be FTP



QA EXTERNAL INTERFACE

PROCEDURE:

Steps	Station	Operator Action	Expected Results	Comments
1.001	SCF	SCF sends email to ECS.	Email is received by ECS .	**Contents**: • Subject of email message • ECS user name • notification text • <ESDT> • event • FTP push (optional) • FTP host (optional) • FTP destination (optional) • Media (optional) • start date • expiration date • qualifier (optional) • and as defined in ICD 505 - 41 - 33 (Table 5.8.1-2) **Format**: As defined in ICD 505 - 41 - 33 (Table 5.8.1-2) **Expected Volume** <10 KB
2.001	ECS	ECS is capable of sending an email reply to the SCF as acknowledgment of email from step 1.		**Content**: Reply to message requesting a new/update/ cancellation of an existing subscription. Retain original message and append the status and subscription ID as defined by Table 5.8.2-2. **Format**: As defined in ICD 505 - 41 -33 (Table 5.8.2.2) **Expected Volume** < 10 KB
2.002	ECS	All events that were subscribed by the SCF in step 1 should be performed.		

Steps	Station	Operator Action	Expected Results	Comments
3.001	ECS	ECS sends an automated email after step 2.002 is performed	Email is received by SCF .	**Contents**: <notification text> ; <granule UR> **Format**: The <notification text> is a 226 byte variable ASCII string and the <granule UR> is a 325 byte fixed ASCII string. **Expected Volume** < 10 KB
4.001	ECS	ECS sends email to SCF that the data has been staged.	Email is received by SCF	**Contents**: As defined in ICD 505 - 41 - 33 (Table 4.8-1) **Format**: As defined in ICD 505 - 41 - 33 (Table 4.8-1) **Expected Volume** < 10 KB
5.001	SCF	SCF pulls the data from the designated directory.	Files should be ftp'd to the SCF	**Contents**: As defined in ICD 505 - 41 - 33 (Table 4.8-1) **Format**: HDF **Expected Volume** : 75 GB (maximum)
5.002	SCF	Compare files ftp'd with the original set	File count and size should match.	
6.001	SCF	Update QA Metadata by using the tools specified according to the release version.	QA metadata should be updated.	**Interface Method**: **Release B.0** : X-11 using QA Monitor, or email to DAAC operator. **Release B.1:** SCF QA Metadata Update tool using JEST **Contents**: QA metadata values **Format**: text **Expected Volume** < 10 KB
6.002	SCF	An email is send with subscription cancellation notification	Email is received and subscription should be canceled.	

TESTING REQUIREMENTS:

- Anomaly cases should be tested related to the test case scenario**.**
- Confirmation that the contents of the all emails adhere to the format specified.
- Files of all related formats should be tested under ftp.
- The cancellation option in the email of step 1 should be tested for functionality.

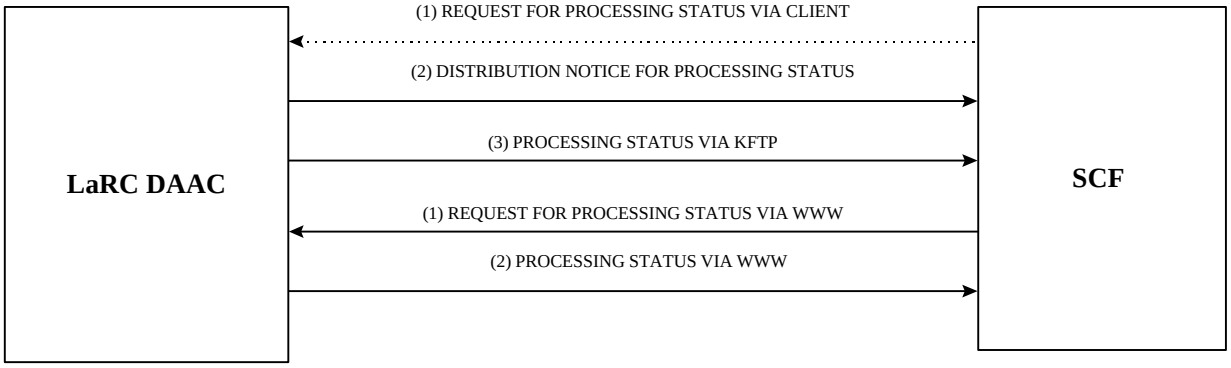
ICT01.9 CERES SCF/LaRC DAAC ECS Processing Status External Interfaces (Post Launch Test Scenario).

TEST OBJECTIVE: This test verifies that the LaRC DAAC can send processing status to the CERES SCF.

REQUIREMENTS VERIFIED: SCF-0001, SCF-0010, SCF-0020, SCF-0025, SCF-0030, SCF-0340, SCF-0350, ICD PARAGRAPH - 5.9.1, 5.9.2, 5.9.3, 5.9.4, 5.9.5

CONFIGURATION REQUIREMENTS:

1) Email address for SCF and ECS.
2) WWW access.
3) URL for the page.
4) IP address for ECS.
5) Designated directory.
6) Type of files to be FTP



PROCESSING STATUS EXTERNAL INTERFACE

PROCEDURE:

Steps	Station	Operator Action	Expected Results	Comments
1.001	SCF	Request for processing status via the JEST Client	Request is submitted and accepted	

Steps	Station	Operator Action	Expected Results	Comments
1.002	ECS	The ECS is capable of notifying the SCF via the email that product processing status has been staged following a request via the JEST client.	The email is automatically send and received by SCF.	**Contents**: As defined in ICD 505 - 41 - 33 (Table 4.8-1) **Format**: As defined in ICD 505 - 41 - 33 (Table 4.8-1) **Expected Volume** < 10 KB
2.001	SCF	The SCF is capable of "ftp pull" of the processing status report from a designated directory.	The files are ftp'd to the SCF	**Content**: As defined in ICD 505 - 41 - 33 (Table 5.9.2-2) **Format** : ASCII **Expected Volume** = 100 KB
2.002	SCF	Compare file size with original set	File count and size match.	
3.001	SCF	The SCF is capable of requesting current processing status from ECS via the WWW.		**Format**: HTML **Expected Volume** < 10 KB
4.001	ECS	The ECS is capable of supplying the SCF the requested processing status via the WWW	SCF should be able to view all related files.	**Content:** As defined in ICD 505 - 41 - 33 (Table 5.9.2-2) **Format**: ASCII **Expected Volume** = 100 KB

TESTING REQUIREMENTS:

- Anomaly cases should be tested related to the test case scenario**.**
- Confirmation that the contents of the all emails adhere to the format specified.
- Files of all related formats should be tested under ftp.

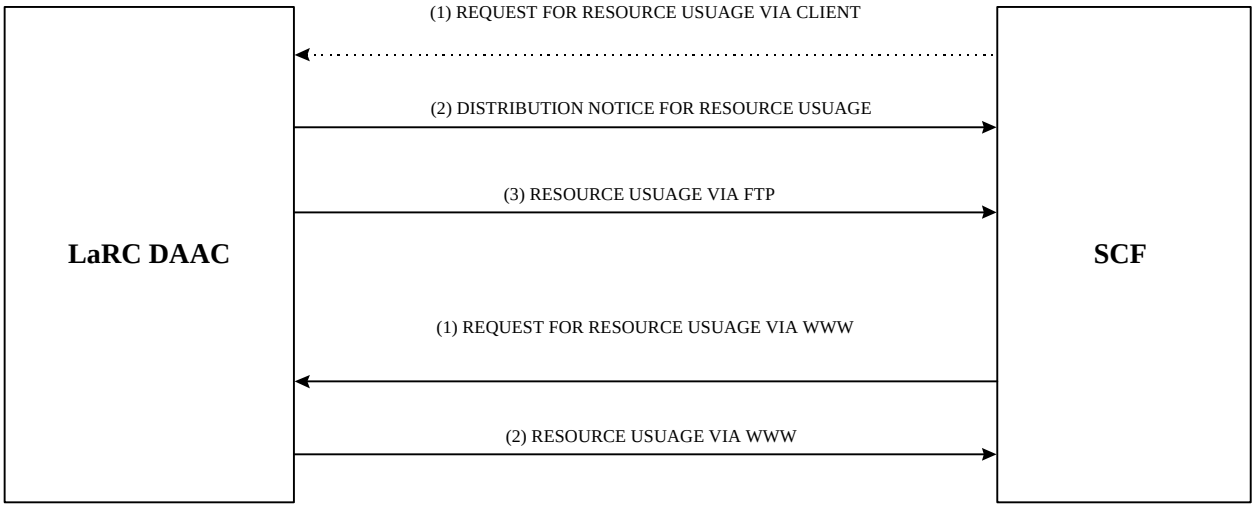
ICT01.10 CERES SCF/LaRC DAAC ECS Resource Usage External Interfaces (Post Launch Test Scenario)

TEST OBJECTIVE: This test verifies that the LaRC DAAC can send resource usage information to the CERES SCF.

REQUIREMENTS VERIFIED: SCF-0001, SCF-0010, SCF-0020, SCF-0025, SCF-0030, SCF-0360, SCF-0370, ICD PARAGRAPH - 5.10.1, 5.10.2, 5.10.3, 5.10.4.

CONFIGURATION REQUIREMENTS:

1) Email address for SCF and ECS.
2) WWW access.
3) URL for the page.
4) IP address for ECS.
5) Designated directory.
6) Type of files to be FTP



RESOURCE USAGE EXTERNAL INTERFACE

PROCEDURE:

Step	Station	Operator Action	Expected Results	Comments
1.001	ECS	Request for resource usage via client	Resource usage request is accepted	
1.002	SCF, ECS	Login as operator	Entry into respective environment	
1.003	SCF, ECS	Login to local email software with proper username and password	Password is accepted and email toolbars and menu appears	
1.004	ECS	Resource usage criteria is met		
1.005	ECS	ECS is capable of sending an automated email to SCF indicating resource usage information has been staged following a request.	SCF receives this email message.	**Content**: As defined in ICD 505 - 41 - 33 (Table 4.8 -1) **Format**: As defined in ICD 505 - 41 - 33 (Table 4.8 -1) **Expected Volume** < 10 KB
2.001	ECS	Verify the following Security Server information to facilitate data transmission: FTP IP Address Host Name User ID Destination Directory Password	Data Server information verified.	
2.002	SCF	SCF uses a "pull" to get the software package from the designated directory	The files are ftp'd to the right directory at the SCF.	**Content**: As defined in ICD 505 - 41 - 33 (Table 5.10.2-2) **Format**: ASCII **Expected Volume** : 100 KB.
2.003	SCF	Files are compared against the original set at ECS	The file count and size should match.	
3.001	SCF	SCF is capable of request of resource usage data from ECS through the WWW.	SCF can request resource through WWW.	**Format** : HTML **Expected Volume** < 10 KB

Step	Station	Operator Action	Expected Results	Comments
4.001	ECS	The ECS is capable of providing the resource usage information to the SCF through the WWW	SCF gets the information through the WWW.	**Contents**: As defined in ICD 505 - 41 - 33 (Table 5.10.2-2) **Format** : ASCII **Expected Volume** : 100 KB

TESTING REQUIREMENTS:

- Anomaly cases should be tested related to the test case scenario**.**
- Confirmation that the contents of the email in step 1 adhere to the format specified.
- Files of all related formats should be tested under ftp.

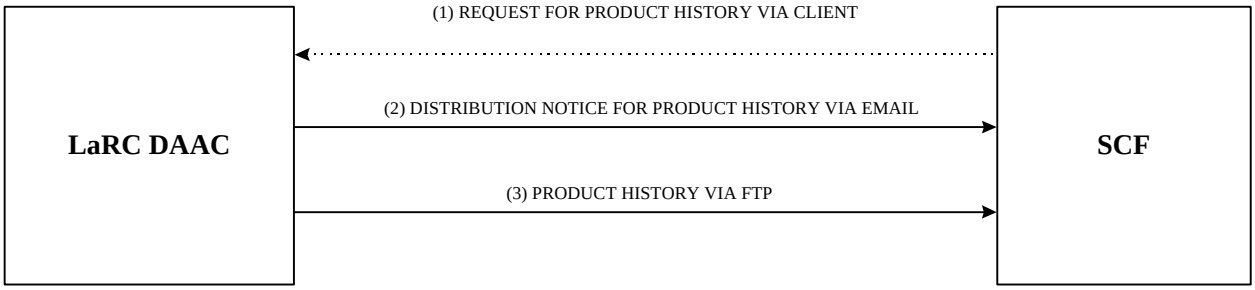
ICT01.11 CERES SCF/LaRC DAAC ECS Production History External Interfaces

TEST OBJECTIVE: This test verifies that the LaRC DAAC can send product history information to the CERES SCF.

REQUIREMENTS VERIFIED: SCF-0001, SCF-0010, SCF-0020, SCF-0025, SCF-0030, SCF-0380, SCF-0390, ICD PARAGRAPH - 5.11.1, 5.11.2.

CONFIGURATION REQUIREMENTS:

1) Email address for SCF and ECS.
2) IP address for ECS.
3) Designated directory.
4) Type of files to be FTP



PRODUCT HISTORY EXTERNAL INTERFACE

PROCEDURE:

Step	Station	Operator Action	Expected Results	Comments
1.001	ECS	Request for production history via client	Production history request is accepted	
1.002	SCF, ECS	Login as operator	Entry into respective environment	
1.003	SCF, ECS	Login to local email software with proper username and password	Password is accepted and email toolbars and menu appears	
1.004	ECS	Production History criteria is met		

Step	Station	Operator Action	Expected Results	Comments
1.005	ECS	ECS has the capability to send SCF email message notifying that product history has been staged following a request.	SCF receives this email message.	**Content**: As defined in ICD 505 - 41 - 33 (Table 4.8 -1) **Format**: As defined in ICD 505 - 41 - 33 (Table 4.8 -1) **Expected Volume** < 10 KB
2.001	ECS	Verify the following Security Server information to facilitate data transmission: FTP IP Address Host Name User ID Destination Directory Password	Data Server information verified.	
2.002	SCF	SCF uses a "pull" to get the software package from the designated directory	The files are ftp'd to the right directory at the SCF.	**Content**: Process Control File (PCF), PGE log files, runtime files, Processing log. The processing log contains resource usage and granule data including the Urs of the PGE input line, a list of URs of produced granules inserted into the archive and corresponding output file name and sizes. **Format**: ASCII **Expected Volume** : 10 MB
2.003	SCF	Files are compared against the original set at ECS	The file count and size should match.	

TESTING REQUIREMENTS:

- Anomaly cases should be tested related to the test case scenario**.**
- Confirmation that the contents of the email in step 1 adhere to the format specified.
- Files of all related formats should be tested under ftp.

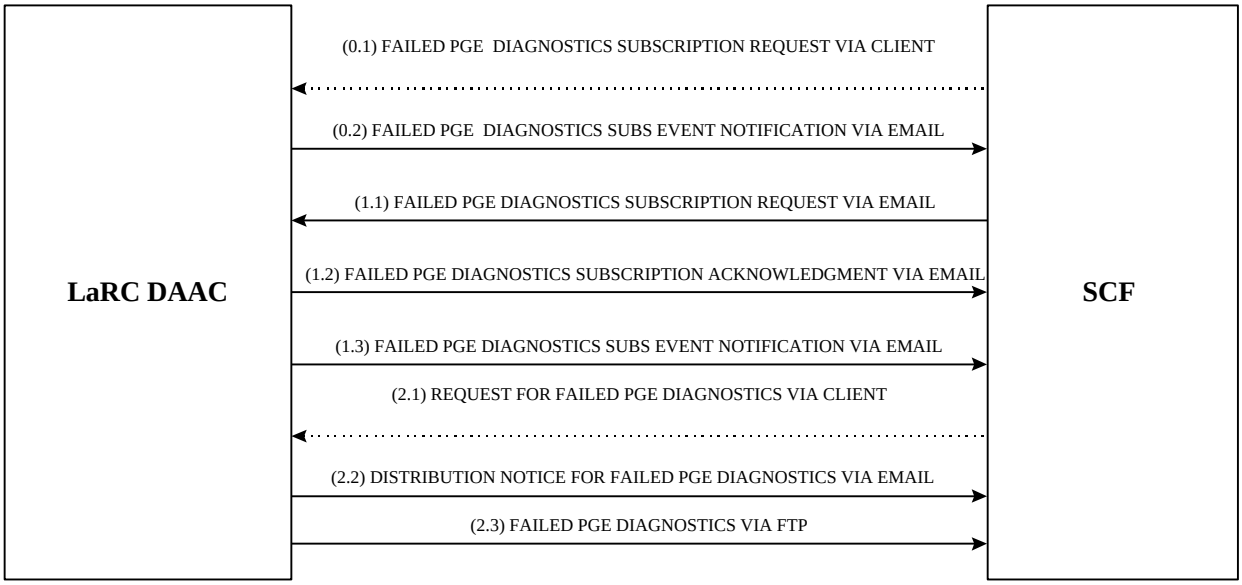
ICT01.12 CERES SCF/LaRC DAAC Failed PGE Diagnostics External Interfaces

TEST OBJECTIVE: This test verifies that the LaRC DAAC can send failed Program Generation Executive (PGE) diagnostics to the CERES SCF.

REQUIREMENTS VERIFIED: SCF-0001, SCF-0010, SCF-0020, SCF-0025, SCF-0030, SCF-0340, SCF-0350, ICD PARAGRAPH - 5.12.1, 5.12.2, 5.12.3, 5.12.4, 5.12.5

CONFIGURATION REQUIREMENTS:

1) Email address for SCF and ECS.
2) WWW access.
3) URL for the page.
4) IP address for ECS.
5) Designated directory.
6) Type of files to be FTP



FAILED PGE DIAGNOSTICS INTERFACE

PROCEDURE:

Step	Station	Operator Action	Expected Results	Comments
1.001	SCF, ECS	Login as operator	Entry into respective environment	

Step	Station	Operator Action	Expected Results	Comments
1.002	SCF, ECS	Login to local email with proper username and password	Password is accepted and email toolbars and menu appears.	
1.003	SCF	SCF sends an email to DAAC for Failed PGE subscription requests.	ECS receives message	**Contents:** • Subject of email message • ECS username • notification text • Failed PGE name and version • event • ftp push (optional in release B.1) • ftp host (optional in release B.1) • ftp destination (optional in release B.1) • start date • expiration date and as defined in Table 5.12.1-2 **Format**: as defined in Table 5.12.1-2
2.001	ECS	ECS sends an email in response to the subscription request.	SCF receives the email.	**Contents**: Reply to the message requesting a new subscription (Table 5.12.1-2), or an update or cancellation of an existing subscription (Tables 5.8.1-3 through 5.6.1-6). Retain the original request message and append the "status and subscription ID" as defined by Table 5.12.2-2. **Format**: As defined by Table 5.12.2-2 **Volume** < 10 KB
3.001	ECS	Archive the diagnostics for a failed PGE		

Step	Station	Operator Action	Expected Results	Comments
3.002	ECS	In response to step 3.001 ECS automatically sends an email to SCF to notify that failed PGE diagnostics have been archived.	SCF receives the email.	**Contents**: <notification text>;<Failed PGE Diagnostics UR>. **Format**: The <notification text> is a 256 Byte variable ASCII string, and the <granule UR> is a 89 byte fixed ASCII string.
4.001	SCF	Request for Failed PGE via Client	Failed PGE is requested.	
4.002	ECS	ECS send an email to SCF to inform that the requested failed PGE diagnostics has been staged.	SCF receives the email.	**Contents**: Defined in Table 4.8-1. **Format**: Defined in Table 4.8-1 **Volume** < 10 KB
5.001	SCF, ECS	SCF "gets" or ECS "push" the files.	Files are ftp'd to the SCF	**Contents**: Process Control File (PCF): Toolkit status, log and report files; any PGE marked files, output files (if produced) if processing configuration parameter set to TRUE; PGE run profile file; Production log (system resource usage by PGE), core file (if produced). **Format:** One or more tar files (max size is 2 GB)
5.002	SCF	Compare files with original set	File count and size are the same.	

TESTING REQUIREMENTS:

- Anomaly cases should be tested related to the test case scenario**.**
- Confirmation that the contents of the all emails adhere to the format specified.
- Files of all related formats should be tested under ftp.

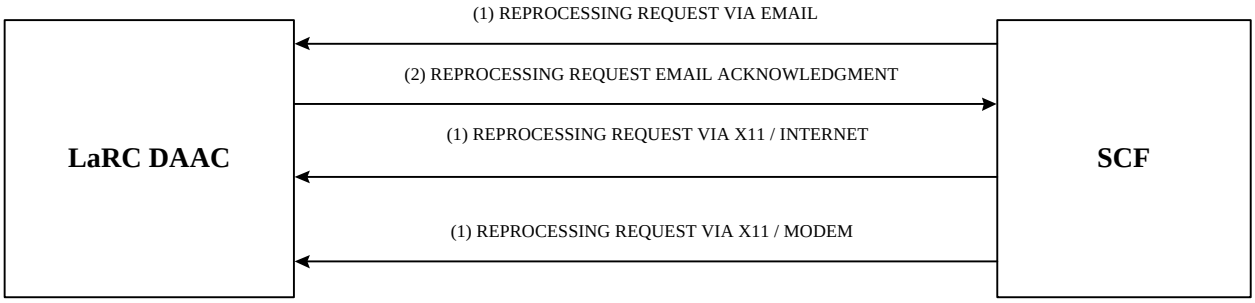
ICT01.13 CERES SCF/LaRC DAAC ECS Reprocessing Request External Interfaces

TEST OBJECTIVE: This test verifies that the CERES SCF can send reprocessing requests to the LaRC DAAC.

REQUIREMENTS VERIFIED: SCF-0001, SCF-0010, SCF-0020, SCF-0025, SCF-0030, SCF-0260, SCF-0270, SCF-0280, ICD PARAGRAPH - 5.13.1, 5.13.2, 5.13.3.

CONFIGURATION REQUIREMENTS:

1) Email address for SCF and ECS.
2) SCF Modem is working.



REPROCESSING REQUEST INTERFACES

PROCEDURE:

Step	Station	Operator Action	Expected Results	Comments
1.001	SCF, ECS	Login as operator	Entry into respective environment	
1.002	SCF, ECS	Login to local email with proper username and password	Password is accepted and email toolbars and menu appears.	

Step	Station	Operator Action	Expected Results	Comments
1.003	SCF	SCF sends a reprocessing request to DAAC via email.	ECS receives this email.	**Contents**: • PGE Name • PGE version • Optional PGE profile (number 1-99 defining how the PGE is to be run) • the time window for which the product is to be generated. • Optional run time parameters for production request editor. • Optional Comment **Format**: Free Form **Expected Volume** < 10 KB
2.001	ECS	ECS replies back with an acknowledgment email.	SCF receives this email.	**Contents**: " This is an acknowledgment of the receipt of the following reprocessing request : …" **Format**: determined by above "Contents". **Expected Volume** < 10 KB
3.001	SCF	SCF initiates an internet session to connect to the ECS	SCF connects to the ECS via internet.	

Step	Station	Operator Action	Expected Results	Comments
3.002	SCF	SCF access the GUI interface for reprocessing request. During the session data flow in both directions..	GUI is accessed to test the internet connectivity.	**Interface Method**: Internet connectivity via an SCF fire wall / router, Ktelnet, Xserver, Motif. **Contents**: Inputs to Production request editor GUI Interface • PGE Name • PGE version • Optional PGE profile (number 1-99 defining how the PGE is to be run) • the time window for which the product is to be generated. • Optional run time parameters for production request editor. • Optional Comment **Format** : Determined by X11 protocol. **Expected Volume** : Users use of the interface.
4.001	SCF	SCF initiates a session with the ECS via the modem.	Session is initiated.	

Step	Station	Operator Action	Expected Results	Comments
4.002	SCF	SCF access the GUI interface for reprocessing request. During the session data flow in both directions..	GUI is accessed to test the modem connectivity.	**Interface Method**: 28.8 kbs V.34 modem, Ktelnet, Xserver, Motif. **Contents**: Inputs to Production request editor GUI Interface • PGE Name • PGE version • Optional PGE profile (number 1-99 defining how the PGE is to be run) • the time window for which the product is to be generated. • Optional run time parameters for production request editor. • Optional Comment **Format** : Determined by X11 protocol. **Expected Volume** : Users use of the interface

TESTING REQUIREMENTS:

- Anomaly cases should be tested related to the test case scenario**.**
- Confirmation that the contents of the email in step 1 & 2 adhere to the format specified.
- The different Interface methods should be tested for functionality and performance.

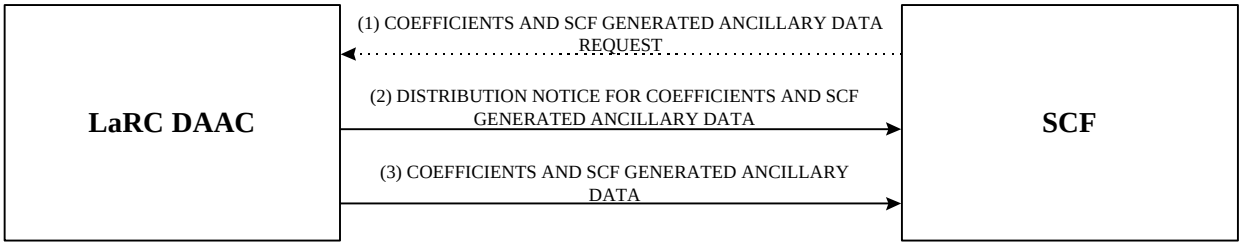
ICT01.14 CERES SCF/LaRC DAAC ECS Coefficients and SCF-Generated Ancillary Data External Interfaces

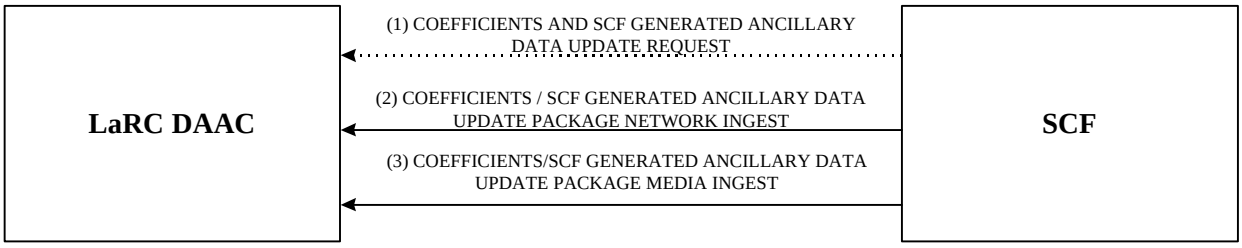
TEST OBJECTIVE: This test verifies that the LaRC DAAC can receive coefficients and CERES SCF generated ancillary data.

REQUIREMENTS VERIFIED: SCF-0001, SCF-0010, SCF-0020, SCF-0025, SCF-0030, SCF-0310, SCF-0320, SCF-0330, ICD PARAGRAPH - 5.14.1, 5.14.2, 5.14.3, 5.14.4

CONFIGURATION REQUIREMENTS:

1) Email address for SCF and ECS.
2) IP address for ECS and SCF.
3) Designated directory.
4) Type of files to be FTP





COEFFICIENTS AND SCF - GENERATED ANCILLARY DATA INTERFACES

PROCEDURE:

For steps 3.001 to 3.007, please consult the Procedure B090110.090$L

Step	Station	Operator Action	Expected Results	Comments
1.001	SCF, ECS	Login as operator	Entry into respective environment	
1.002	SCF, ECS	Login to local email with proper username and password	Password is accepted and email toolbars and menu appears.	
1.003	SCF	SCF requests coefficients and generated ancillary data request via client	Request us accepted.	
1.004	ECS	Coefficients and SCF generated ancillary data files are staged.		
1.005	ECS	Automated email is send to SCF with notification.	SCF receives the email.	**Contents**: As defined in ICD 505 - 41 - 33 (Table 4.8-1) **Format**: As defined in ICD 505 - 41 - 33 (Table 4.8-1) **Expected volume** < 10 KB
2.001	SCF	Provide the following Security Server information to the LaRC DAAC to facilitate data transmission: FTP IP Address Host Name User ID Password	Data Server information provided to DAAC	
2.002	ECS	Provide the following Security Server information to the SCF to facilitate data transmission: FTP IP Address Host Name User ID Destination Directory Password	Data Server information provided to SCF	

Step	Station	Operator Action	Expected Results	Comments
2.003	SCF	SCF ftp's the related files from designated directory.	Files are ftp'd	**Contents**: Coefficients or SCF - generated ancillary data files that are used as science data production software input. **Data**: HDF-EOS, HDF, 32 - bit binary, 64 - bit binary, ASCII **Expected Volume**: depends on the particular file being requested.
2.004	SCF	Files are compared against original set.	File size and count match.	
3.001	ECS	Verify the ECS software is up and running		
3.002	SCF	Verify the SCF software is up and running		
3.003	SCF	SCF places PDRs at a designated directory.	PDRs are placed at designated directory.	
3.004	SCF	SCF places updated coefficient and SCF generated Ancillary data package into a designated directory.	Files are placed.	**Contents**: As described in ICD 505 - 41 - 33 (Section 4.6). **Format**: PVL format. **Expected Volume**: Maximum 1 MB per PDR.
3.005	ECS	ECS polls and validates the PDRs	PDRs are validated.	
3.006	ECS	ECS pulls the scheduled data from the directory.	The files are ftp'd	
3.007	ECS	ECS sends a PAN to the SCF.	PAN is received by SCF.	

TESTING REQUIREMENTS:

- Anomaly cases should be tested related to the test case scenario**.**
- Confirmation that the contents of the email in step 1 adhere to the format specified.
- Files of all related formats should be tested under ftp.

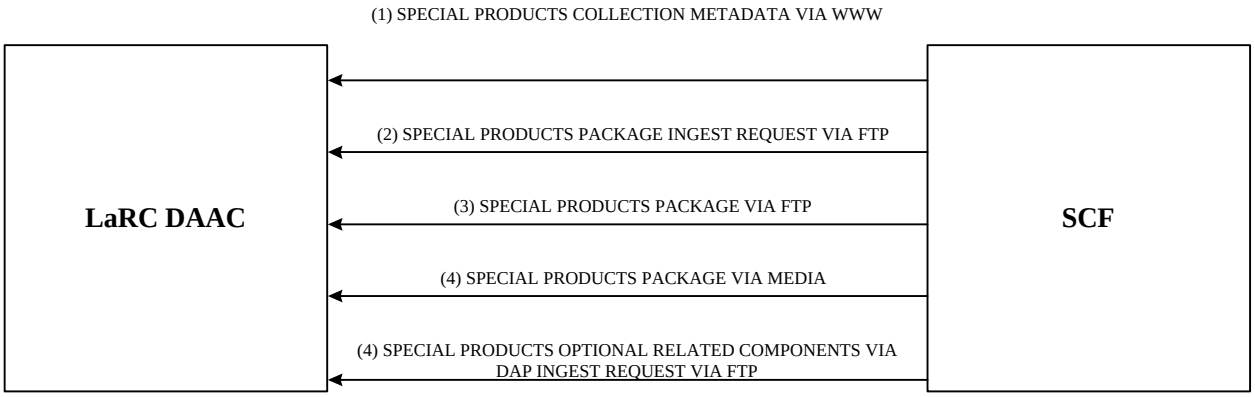
ICT01.15 CERES SCF/LaRC DAAC ECS Special Products and External Interfaces (Post Launch Test Scenario)

TEST OBJECTIVE: This test verifies that the CERES SCF can produce special products and that those special products can be archived by the LaRC DAAC.

REQUIREMENTS VERIFIED: SCF-0001, SCF-0010, SCF-0020, SCF-0025, SCF-0030, SCF-0130, SCF-0140, SCF-0150, SCF-0160, SCF-0170, SCF-0180, SCF-0190, SCF-0192, SCF-0194, ICD PARAGRAPH - 5.15.1, 5.15.2, 5.15.3.

CONFIGURATION REQUIREMENTS:

1) WWW Access
2) URL for the page
3) IP address for ECS and SCF.
4) Designated directory.
5) Type of files to be FTP



SPECIAL PRODUCTS INTERFACES

PROCEDURE:

For steps 2.001 to 2.009, please consult the Procedure B090110.090$L

Step	Station	Operator Action	Expected Results	Comments
1.001	SCF	SCF access the WWW (Metadata Works tool, via the ECS DAAC science data specialist)to provide ECS with the collection level metadata that are associated with the special product.	Collection level metadata are provided to the ECS.	**Contents**: Mandatory attributes as defined by the Intermediate level of metadata in the Backus-Naur Format Representation of the B.0 Earth Science Data Model, document number 420-TP-016-001, or later version for B.1 when published. **Format**: ASCII
2.001	SCF	Verify the following Security Server information to facilitate data transmission: FTP IP Address Host Name User ID Password	Data Server information verified.	
2.002	ECS	Verify the ECS software is up and running		
2.003	SCF	Verify the SCF software is up and running		
2.004	SCF	SCF places PDRs at a designated directory.	PDRs are placed at designated directory.	
2.005	SCF	SCF places Description of Special products at a designated directory..	Files are placed.	**Contents**: As jointly determined by SCF and DAAC including a special product and optional components per Section 5.14 **Format**: HDF -EOS, HDF or native format. **Expected Volume**: Variable but aggregate ingest volume for all special products, including network ingest and metadata, is not to exceed 10 GB/day (reference Goddard Space Flight Center, Functional and Performance Requirements Specification for the EOSDIS Core System (ECS), Table C-3).

Step	Station	Operator Action	Expected Results	Comments
2.006	ECS	ECS polls and validates the PDRs	PDRs are validated.	
2.007	ECS	ECS pulls the scheduled data from the directory.	The files are ftp'd	
2.008	ECS	ECS sends a PAN to the SCF.	PAN is received by SCF.	
2.009	ECS	Files should be matched with original set	File count and size should match.	
3.001	SCF	Generate a copy of Archive Media D3 tape of requested data	Tape is generated.	**Contents**: As jointly determined by SCF and DAAC including a special product and optional components per Section 5.14 **Format**: HDF -EOS, HDF or native format.
3.002	SCF	Send the archived data with the Physical Media Unit Delivery Letter	Delivery Letter is send to LaRC DAAC.	
3.003	ECS	Copy selected data from archived media.	Selected data is copied.	
4.001	SCF	Special products optional related components Ingest request (PDR file) is placed in designated directory.	File is placed in designated directory	

TESTING REQUIREMENTS:

- Anomaly cases should be tested related to the test case scenario.

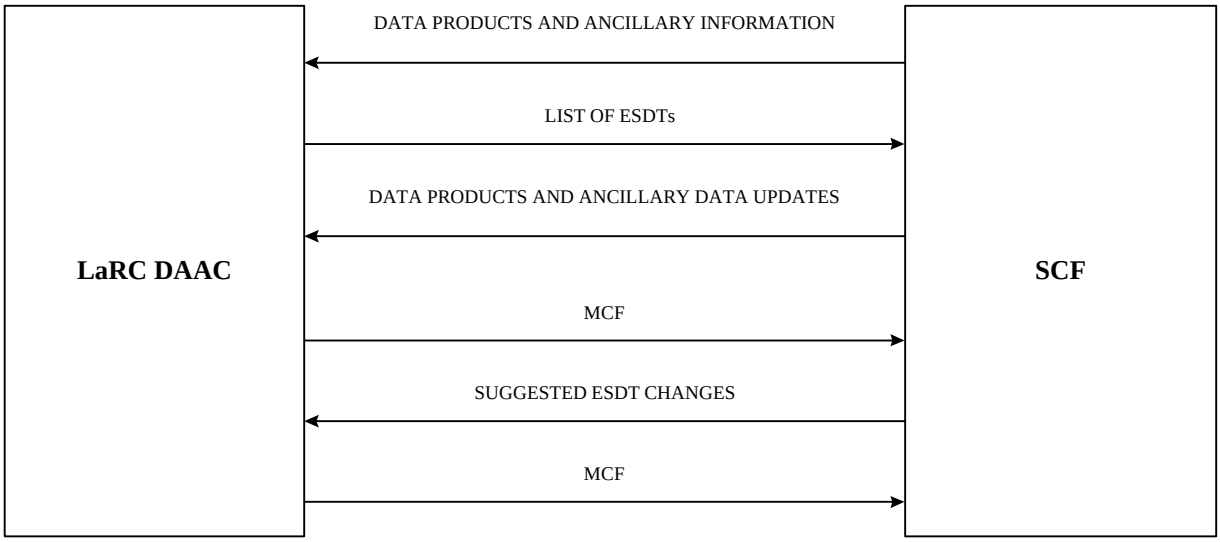
ICT01.16 CERES SCF /LaRC DAAC ECS ESDT Implementation -

TEST OBJECTIVE: This test verifies that the ECS and the SCF is capable of executing the process for creating and implementing an Earth Science Data Type (ESDT) within ECS.

REQUIREMENTS VERIFIED: SCF-0001, SCF-0010, SCF-0020, SCF-0025, SCF-0030.

CONFIGURATION REQUIREMENTS:

1) IP address of ECS and SCF Workstation.
2) Designated directory where the files are stored.
3) Type of files.



ESDT IMPLEMENTATION

PROCEDURE:

Step	Station	Operator Action	Expected Results	Comments
1.001	SCF	Verify the following Security Server information to facilitate data transmission: FTP IP Address Host Name User ID Password	Information is verified.	
1.002	ECS	Verify the following Security Server information to facilitate data transmission: FTP IP Address Host Name User ID Password	Information is verified.	
1.003	ECS	Verify ECS software is running	ECS software is running.	
1.004	SCF	Verify SCF software is running	SCF software is running.	
1.005	SCF	SCF ftp's files which provide information about the data products and ancillary data.	Files are ftp'd.	
2.001	ECS	ECS is capable of ftp a list of ESDT to the SCF	The list is ftp'd.	
3.001	SCF	SCF is capable of giving Data product and ancillary data updates via ftp	The products are ftp'd.	
4.001	ECS	ECS is capable of providing MCF to SCF via ftp.	MCF is provided to SCF.	
5.001	SCF	SCF is capable of providing suggestions for ESDT changes in response to DAAC inquires.	Suggestions are provided to ECS.	
6.001	ECS	ECS is capable of providing updated MCF to SCF via ftp.	Updated MCF is provided to SCF.	

Anomaly Cases:

1. FTP ANOMALY CASES

The first anomaly case to be tested is in the FTP scenario. Following are the FTP anomalies that need to be tested:

NO	FTP FAILURE TYPE:	RECREATION IN THE TEST ENVIRONMENT
1	All File Groups/Files not found	Make sure no files exist in the designated directory.
2	FTP failure	TBD
3	FTP command error	TBD
4	Unknown data type	Files of type not to be ingested should be placed in the directory.
5	Invalid or missing file type	Files that are expected should not exist in the directory
6	Duplicate File name in Granule	TBD
7	Incorrect Number of Files	The number of files in the directory should not match that in the PDR.

Appendix: Test Package Requirements Summary

Requirement	Description
SCF-0001	The SCF interface platform shall adhere to requirements specified in the Data Production Software and SCF Standards and Guidelines, GSFC 423-16-01. This standards document includes SCF requirements for operating system, computer communications, e-mail protocol, and windowing protocol.
SCF-0010	The SCF interface shall consist of an ESDIS approved computing platform that shall have a C compiler. To access FORTRAN routines in the ECS Toolkits, the platform shall also have a FORTRAN compiler.
SCF-0020	The SCF interface shall have an I/O communication port and the ability to run TCP/IP software for communication to the ECS.
SCF-0025	The SCF interface platform shall provide one of the following levels of security for interoperation with ECS: a. Kerberized authentication for bi-directional file transfers. b. Use of Distributed Computing Environment (DCE) for authentication of users, authorization of users for access to services such as remote file access, and provision for integrity of data being transferred.
SCF-0030	The SCF interface platform shall have adequate computing resources for the storage, compilation, linking, and execution of ECS supplied software resident on the platform.
SCF-0040	The ECS shall have the capability to send to the SCFs the Data Production Software Specification Requirements describing what is required for completing the Initial Data Production Software Specifications.
SCF-0060	The ECS shall have the capability to provide to the SCF the Toolkit Delivery and Update Package. This package includes the PGS toolkit which supplies tools for the emulation of the ECS production environment and contains an ECS-standardized software routines to aid in science data production software development.
SCF-0070	The ECS shall have the capability to provide

	Integration and Test Specifications to the scientist at the SCF. These specifications are defined by the Data Processing Focus Team. These specifications are implemented in the Data Production Software Delivery Package and support smooth integration of the data production software into the ECS production environment.
SCF-0080	The ECS shall have the capability to provide an Interactive Session Dialog with the SCF. This dialog, to aid integration and test of the data production software into the ECS production environment, shall support, at a minimum, general communications between the ECS and the SCF that include logins, mail messages, status reports, test coordination, test execution scripts, and solutions to minor problems.
SCF-0085	The ECS shall support remote science software integration and test activities at the DAACs including: a. executing code checkers, compiling, linking, debugging code, file comparison and science software resource profiling from the SCF; b. interactive remote access from the SCF to a job scheduling tool for defining and executing jobs.
SCF-0090	The SCF shall have the capability to provide ECS with the Data Production Software Delivery Package with "Required Items For Delivery" as specified by the Science User's Guide and Operations Procedure Handbook for the ECS Project.
SCF-0100	The ECS shall have the capability to forward Test Products to the SCF. These products generated by the science software at the ECS will require the review of the scientist at the SCF who submitted the software.
SCF-0110	The ECS shall have the capability to receive Test Product Reviews from the SCF. These reviews shall include the comments and recommendations of the scientist at the SCF who has reviewed the Test Products.
SCF-0120	The ECS shall have the capability to receive Data Production Software Updates from the SCF. These Data Production Software Updates include modifications to any data production software already submitted to the ECS by the SCF. The Data Production Software Updates may include some or all the items required in the Data Production Software Delivery Package.

SCF-0130	The ECS shall have the capability to receive Special Products from the SCF. These shall include L1 - L4 Special Products.
SCF-0140	The ECS shall have the capability to receive Metadata, related to Special Products, from the SCF.
SCF-0150	The ECS shall have the capability to receive Ancillary Data, related to Special Products from the SCF.
SCF-0160	The ECS shall have the capability to receive Calibration Data, related to Special Products, from the SCF.
SCF-0170	The ECS shall have the capability to receive Correlative Data, related to Special Products, from the SCF.
SCF-0180	The ECS shall have the capability to receive Documents from the SCF that are related to Special Products and deemed necessary by the contributing scientist.
SCF-0190	The ECS shall have the capability to receive Data Production Software, related to Special Products, from the SCF.
SCF-0192	The ECS shall have the capability to receive Browse Data, related to Special Products, from the SCF.
SCF-0194	The ECS shall have the capability to receive Guide Information related to Special Products, from the SCF.
SCF-0200	The ECS shall have the capability to receive from the SCF a QA Notification Specification. This specification, submitted by the scientist at the SCF, describes the conditions under which data should be forwarded to the SCF for QA.
SCF-0210	The ECS shall have the capability to send a Data Quality Request Notification to the SCF. This notification is sent when QA notification criteria are met during routine ECS processing. The notification states the data product and the time by which a notification, and optionally data, must be evaluated and returned to the ECS for inclusion as an update to the product metadata.
SCF-0220	The ECS shall have the capability to receive from the SCF a Request for Data to QA. This request may be a standing request specified in the QA notification Specification and may include the data product specified in the Data Quality Request Notification, or other data required by the scientist to QA the data product.
SCF-0230	The ECS shall have the capability to send Data

	Delivered for QA to the SCF. This data includes the data requested by the scientist needed for the QA of data products.
SCF-0240	The ECS shall have the capability to receive an On Time QA from the SCF. This shall consist of the science QA codes describing the results of product QA and any further instructions to the ECS. The ECS shall accept the On Time QA when it is received within the time-out period specified in the Data Quality Request Notification. ECS shall accept post-time-out QA updates as Metadata Updates as specified by Requirement SCF-0250.
SCF-0250	The ECS shall have the capability to receive Metadata Updates from the SCF. These shall include the science QA codes and optionally a report describing the results of product QA and any further instruction to the ECS. The ECS shall only accept Metadata Updates when they are received after the time allotment specified in the Data Quality Request Notification.
SCF-0260	The ECS shall have the capability to make a Reprocessing Request Template available to the SCF. This template will be used by the scientist at the SCF to prepare a Reprocessing Request.
SCF-0270	The ECS shall have the capability to receive a Reprocessing Request from the SCF. This request, at a minimum, contains the following, a list of all the products to be generated, the version numbers of the science software and calibration coefficients, a list of all ancillary data, and data start and stop times.
SCF-0280	The ECS shall have the capability to supply a Reprocessing Status to the SCF. This status that includes the reprocessing schedule informs the scientist at the SCF the status of his reprocessing request and provides notification upon completion of the reprocessing by the ECS.
SCF-0290	The ECS shall have the capability to send the Local Data Access Services Delivery Package to the SCF. This package shall provide management of, search of, and access to local metadata.
SCF-0300	The SCF shall have the capability to install and make operational in the SCF environment all COTS products that are required by Local Data Access Services.
SCF-0310	The ECS shall have the capability to receive Calibration Coefficient Requests from the SCF. The current or past calibration coefficients used in processing of instrument data may be requested by

	the scientist from the ECS.
SCF-0320	The ECS shall be capable of sending to the SCF Calibration Coefficients. These shall include the calibration coefficients requested by the scientist at the SCF in the Calibration Coefficient Request.
SCF-0330	The ECS shall have the capability to receive a Calibration Coefficient Update Package from the SCF. This package shall include a calibration coefficient file and other documentation needed to implement the updated coefficients.
SCF-0340	The SCF shall have the capability to send a Request for Processing Status to the ECS for the status of SCF-requested data processing.
SCF-0350	The ECS shall have the capability to provide the SCF with the Processing Status of SCF-requested data processing.
SCF-0360	The SCF shall have the capability to send a Request for Resource Usage to the ECS for information about ECS resource usage during SCF-requested data processing.
SCF-0370	The ECS shall have the capability to provide SCF with information about ECS Resource Usage during SCF-requested data processing.
SCF-0380	The SCF shall have the capability to send a Request for Product History (including the algorithms used) to the ECS for the history of data products that the SCF specifies.
SCF-0390	The ECS shall have the capability to provide SCF with the Product History of data products that the SCF specifies.